

IN THE CLAIMS:

Please cancel claims 32-48, and amend and add new claims as shown in the following claim listing, which replaces all previous claim listings.

1. (Currently Amended) A composition, comprising:
demineralized bone matrix (DBM); ~~and~~
a collagen protein; and
a plasticizer; and
wherein the composition is cross-linked.
2. (Original) The composition of claim 1, wherein the composition is chemically crosslinked with a carbodiimide crosslinking agent.
3. (Original) The composition of claim 2, wherein the carbodiimide crosslinking agent is N-(3-dimethylaminopropyl)-N-ethylcarbodiimide hydrochloride (EDC).
4. (Original) The composition of claim 2, wherein the composition is chemically cross-linked in the presence of N-hydroxysuccinimide (NHS).
5. (Original) The composition of claim 1, further comprising one or more growth factors.
6. (Currently Amended) The composition of claim 1, wherein the composition comprises from 2 to 95 wt/% DBM based on the combined weight of DBM and collagen protein.
7. (Currently Amended) The composition of claim 1, wherein the composition comprises from 55 to 85 wt/% DBM based on the combined weight of DBM and collagen protein.

8. (Original) The composition of claim 1, wherein the DBM comprises particles of the DBM dispersed in the collagen.
9. (Original) The composition of claim 1, wherein the collagen protein is in a porous scaffolding.
10. (Original) The composition of claim 9, wherein the DBM comprises particles of DBM dispersed in the porous scaffolding.
11. (Original) The composition of claim 8, wherein the DBM particles have an average particle size of up to 5 mm.
12. (Original) The composition of claim 8, wherein the DBM particles have an average particle size ranging from 53 to 850 μm .
13. (Original) The composition of claim 1, wherein the composition is chemically crosslinked with a compound selected from the group consisting of gluteraldehyde, formaldehyde, 1,4-butanediol diglycidyl ether, hydroxypyridinium, hydroxylsypyrindinium, and formalin.
14. (Original) The composition of claim 1, wherein the composition is crosslinked by irradiation.
15. (Original) The composition of claim 1, wherein the composition is crosslinked by photooxidation.
16. (Original) The composition of claim 1, wherein the composition is crosslinked via an enzymatic process.
17. (Original) The composition of claim 16, wherein the collagen protein is crosslinked via the action of tissue transglutaminase.

18. (Original) The composition of claim 16, wherein the composition is crosslinked with lysyl oxidase.
19. (Original) The composition of claim 1, wherein the composition is crosslinked by a dehydrothermal treatment.
20. (Original) The composition of claim 1, wherein the composition is crosslinked under acidic conditions.
21. (Original) The composition of claim 1, wherein the collagen protein is crosslinked using e-beam irradiation, gamma irradiation, or light.
22. (Original) The composition of claim 21, wherein the collagen protein is crosslinked using pulsed light.
23. (Original) The composition of claim 1, further comprising a spacer.
24. (Original) The composition of claim 23, wherein the spacer is a polyoxyalkyleneamine spacer or a polyethylene glycol spacer.
25. (Original) The composition of claim 1, wherein the composition further comprises vinyl pyrrolidinone or methyl methacrylate.
26. (Original) The composition of claim 1, further comprising an additive selected from the group consisting of collagenase inhibitors, growth factors, antibodies, metalloproteinases, cell attachment fragment(s), and combinations thereof.
27. (Original) The composition of claim 26, wherein the additive is bound to the collagen or DBM.

28. (Original) The composition of claim 26, wherein the additive is not bound to the collagen or DBM.

29. (Original) The composition of claim 1, wherein the composition is crosslinked by glycation or glycosylation.

30. (Original) The composition of claim 1, wherein the crosslinks are pentosidine crosslinks.

31. (Original) The composition of claim 1, wherein the crosslinks are epsilon(gamma-glutamyl)lysine crosslinks.

32-48. (Cancelled)

49. (Currently Amended) A composition comprising:
demineralized bone matrix (DBM); and
a collagen protein;
said DBM in the form of DBM particles dispersed within the collagen protein; and
wherein the composition is cross-linked via an amide linkage.

50. (Original) The composition of claim 49, further comprising one or more growth factors.

51. (Currently Amended) The composition of claim 49, wherein the composition comprises from 2 to 95 wt/% DBM based on the combined weight of DBM and collagen protein.

52. (Currently Amended) The composition of claim 49, wherein the composition comprises from 55 to 85 wt/% DBM based on the combined weight of DBM and collagen protein.

53. (Currently Amended) The composition of claim 49, wherein the composition is in a paste form that is injectable or packable into a wound site for bone or soft tissue repair. ~~comprises particles of the DBM dispersed in the collagen protein.~~

54. (Original) The composition of claim 49, wherein the collagen protein is in a porous scaffolding.

55. (Original) The composition of claim 54, wherein the composition comprises particles of the DBM dispersed in the porous scaffolding.

56. (Original) The composition of claim 55, wherein the DBM particles have a particle size of up to 5 mm.

57. (Original) The composition of claim 55, wherein the DBM particles have a particle size of from 53 to 850 μm .

58. (New) A composition for bone or soft tissue repair, comprising:
an osteoinductive composition in a paste form that can be injected or packed into a wound site for bone or soft tissue repair, said osteoinductive composition including a diluent and demineralized bone matrix (DBM) dispersed within collagen solids, said DBM comprising from 2 to 95% by weight of the osteoinductive composition based on the combined weight of the DBM and collagen solids, said DBM being in the form of particles having an average diameter of up to about 5 mm, said osteoinductive composition further having been subjected to conditions which introduce crosslinking between molecules of the collagen solids and/or between molecules of the collagen solids and the DBM particles, wherein said conditions comprise irradiating the osteoinductive composition with e-beam or gamma irradiation.

59. (New) The composition of claim 58, further comprising one or more growth factors.
60. (New) The composition of claim 58, wherein said conditions comprise irradiating the osteoinductive composition with e-beam irradiation.
61. (New) The composition of claim 58, wherein said conditions comprise irradiating the osteoinductive composition with gamma irradiation.
62. (New) The composition of claim 58, wherein the composition comprises from 55 to 85 wt/% DBM based on the combined weight of DBM and collagen solids.
63. (New) The composition of claim 58, wherein the DBM particles have an average particle size of from 53 to 850 μm .
64. (New) The composition of claim 58, also comprising a plasticizer.